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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,217	09/26/2002	Cyril Gerard Beck	17MY-7239	8185
27127	7590	12/08/2006	EXAMINER	
HARTMAN & HARTMAN, P.C. 552 EAST 700 NORTH VALPARAISO, IN 46383			SHEEHAN, JOHN P	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,217	Applicant(s) BECK ET AL.	
	Examiner John P. Sheehan	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,23,24,27 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20,23,24,27 and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 20, 23, 24, 27 and 29 to 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (Wood, US Patent No. 4,810,467, cited by the applicants in the IDS submitted September 26, 2002).

Wood teaches castable and weldable nickel-based alloys for use in gas turbine nozzle applications (column 1, lines 6 to 10) as recited in applicants' claims. Wood teaches an alloy composition containing the same element components as recited in the instant claims in proportions which, with the exception of the total aluminum + titanium proportion, overlap the applicants' claimed proportions (column 4, Table 2, the column entitled, Reference Alloy Melt Chemistry Range). Regarding the total aluminum + titanium proportion, the instant claims recite "the sum of aluminum and titanium being 2.8% to 3.05%" (for example, claim 1, line 4) and "the sum of aluminum and titanium being 2.8% to 2.97%" (for example, claim 10, lines 5 and 6) while Wood teaches a total aluminum + titanium content of 4.0 to 6.5% (column 4, Table 2, the column entitled,

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Reference Alloy Melt Chemistry Range). Applicants' upper limit of 2.97% and 3.05% for the aluminum + titanium content closely approximates Wood's lower limit of 4.0% for the aluminum + titanium content. Wood teaches that the strength of a nickel based alloy is dependent on the amount of gamma prime forming elements (Al+Ti+Ta+Cb) present in the alloy (column 3, lines 25 to 30) and that to have the necessary strength the alloy should contain about 28 volume percent the gamma phase (column 3, lines 35 to 40) which gamma content is encompassed by applicants' claim.

Wood and the claimed invention differ in that Wood does not teach all the exact same proportions as recited in the instant claims and Wood's aluminum + titanium content does not overlap the aluminum + titanium content recited in the instant claims but rather closely approximates instantly claimed aluminum + titanium content.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy disclosed by Wood, as explained above, have the same utility, the same phase structure and proportions, that with the exception of the aluminum + titanium content, overlap the instant claims. With respect to the aluminum + titanium content it is the Examiner's position that applicants' claimed aluminum + titanium content, for example 2.97% (claim 1) and 3.05% (claim 11), closely approximates the aluminum + titanium content of 4% disclosed by Wood and that these two aluminum + titanium contents are so close that one would have expected that the alloy disclosed by Wood and the claimed alloys to have the same properties, *See in re Peterson*, 65 USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

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“a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of “having 0.8%nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of 0.75%nickel, 0.25% molybdenum, balance titanium and 0.94%nickel, 0.31% molybdenum, balance titanium.).

3. Claims 1 to 20, 23, 24, 27 and 29 to 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw (US Patent No. 4,039,330).

Shaw teaches castable nickel-based alloys for use in gas turbine applications (column 1, lines 5 to 7 and column 7, lines 10 to 15) as recited in applicants' claims. Shaw teaches an alloy composition containing the same element components as recited in the instant claims in proportions that overlap the applicants' claimed proportions (column 1, lines 45 to 59). Shaw teaches that the sum of the titanium and aluminum proportions should be from 4 to 6.5% (column 2, lines 11 and 12). Shaw's lower limit of 4% for the total of titanium and aluminum closely approximates the instantly claimed total for titanium and aluminum upper limit of 2.97% (claims 1 and 10) and 3.05% (claims 11 and 20). Shaw teaches that the strength of the alloy is dependent on the co-presence of Al, Ti, Ta and Cb (column 2, lines 4 to 10).

Shaw and the claimed invention differ in that Shaw does not teach all the exact same proportions, and is silent with respect to the presence of the gamma phase.

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However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy disclosed by Shaw, as explained above, have the same utility, and proportions, that with the exception of the aluminum + titanium content, overlap the instant claims. With respect to the aluminum + titanium content it is the Examiner's position that applicants' claimed aluminum + titanium content, upper limit of 2.97% (claims 1 and 10) and 3.05% (claims 11 and 20), closely approximates the aluminum + titanium content of 4% disclosed by Shaw and that these two aluminum + titanium contents are so close that one would have expected that the alloy disclosed by Shaw and the claimed alloys to have the same properties, *See in re Peterson*, 65 USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

"a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.).

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

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and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1 to 10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of US Patent No. 7,014,723. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of these two sets of claims is directed to a castable weldable nickel based alloy containing the same elements and, with the exception of the Ti proportion, in proportions that overlap. With respect to the Ti proportion the instant claims recite "1. 6% to 2.4% titanium" (see instant claim 1, line 3) while the claims of '723 recite "about 0.4% to about 1.5% titanium" (See '225, claim 1, lines 3 and 4, emphasis added by the Examiner).

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The instant claims and the claims of '723 differ in that these two sets of claims do not recite the exact same proportions for each of the elements and the instant claims recite "1. 6% to 2.4% titanium" while the claims of '723 recite a titanium content of "about 0.4% to about 1.5% titanium" (emphasis added by the Examiner).

However one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because applicants' use of the word "about" in defining the titanium content as "about 0.4% to about 1.5% titanium" (emphasis added by the Examiner) in the claims of '225 reads on titanium contents of greater than 1.5% and therefore does not distinguish over the titanium content of "1. 6% to 2.4% titanium" recited in the instant claims. In view of this the alloy composition recited in these two sets of claims are considered to overlap and therefore the claims of '225 are considered to establish a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549 and MPEP 2144.05.

Further, even if the claims of '723 were amended to delete the term, "about", with respect to the titanium proportion one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the titanium proportion in these two sets of claims are so close that one would have expected the alloys claimed in these two sets of claims to have the same properties, *Titanium Metals v. Banner*, 227 USPQ 773 and MPEP 2144.05.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicant's arguments filed September 26, 2006 have been fully considered but they are not persuasive.

7. Regarding Wood, applicants' argue that Wood teaches a cobalt content of 10 to 25 % while applicants' claims 11 and 20 recite 5 to 8 % and 6.47 to 6.61% cobalt. The Examiner is not persuaded. In making the rejection based on Wood, the Examiner is relying on Wood's Table 2, the alloy disclosed under the column heading, "Reference Alloy Melt Chemistry Range", which teaches a cobalt content of 5 to 25% cobalt. This range of 5 to 25% cobalt encompasses the cobalt range of 5 to 8 % and 6.47 to 6.61% recited in applicants' claims 11 and 20 respectively.

8. Applicants argue that Wood teaches an aluminum content of 0.5 to 1.5 % while applicants' claims 1 and 10 recite a minimum of 2.21 % aluminum. The Examiner is not persuaded. In making the rejection based on Wood, the Examiner is relying on Wood's Table 2 the alloy disclosed under the column heading, "Reference Alloy Melt Chemistry Range", which teaches an aluminum content of 1 to 4% aluminum. This range of 1 to 4 % aluminum encompasses the aluminum range recited in applicants' claims 1 and 10.

9. Applicants' arguments regarding Shaw, are not persuasive in that the lower limit of 4% for the sum of aluminum and titanium taught by Shaw closely approximates applicants' claimed upper limit of 2.97% as recited in independent claims 1, 10 and 3.05% recited in claim 11 and 20, therefore one of ordinary skill in the art would expect the claimed alloy and Wood's alloy to have the same properties. *See in re Peterson*, 65

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USPQ2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779 and MPEP 2144.05.

“a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir.1985)(Court held as proper a rejection of a claim directed to an alloy of “having 0.8%nickel,0.3%molybdenum,up to 0.1%iron,balance titanium” as obvious over a reference disclosing alloys of 0.75%nickel,0.25%molybdenum,balance titanium and 0.94%nickel,0.31%molybdenum,balance titanium.).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

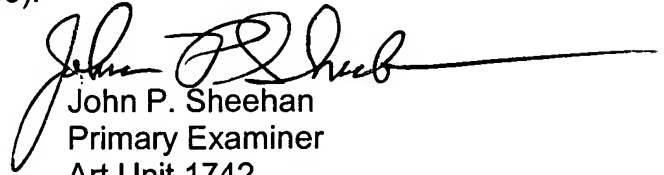
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps